Foreign Priority:

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority under 35 U.S.C. § 119(a)-(d), and for confirming that the certified copy of the priority document has been received at the Patent Office.

Information Disclosure Statement:

Applicant thanks the Examiner for initialing and returning Form PTO/SB/08 A & B filed with the present application, thus indicating that all of the references listed thereon have been considered.

Drawings:

Applicant thanks the Examiner for indicating that the drawings filed with the present application have been approved.

Allowable Subject Matter:

Applicant sincerely thanks the Examiner for indicating that although claims 5, 12, 18 and 25 have been objected to, these claims would be allowable, if written in independent form.

Claim Rejections:

Claims 1-30 are all of the claims pending in the present application, and currently claims 1-4, 7-11, 13-17, 19-24 and 26-30 stand rejected.

35 U.S.C. § 103(a) Rejection - Claims 1-4, 7-11, 14-17, 20-24, 27 and 30:

Claims 1-4, 7-11, 14-17, 20-24, 27 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,337,755 to Cao in view of U.S. Patent No. 5,515,196

to Kitajima et al, in further view of U.S. Patent No. 5,737,110 to Suzuki. In view of the following discussion, Applicant respectfully traverses the above rejection.

Initially, Applicant notes that the Examiner has not laid out specific rejections of the independent claims 1, 14 and 20, but has simply stated that "the limitations introduced by claims 1, 14 and 20 correspond[] to the limitations introduced by claim 7." Thus, the Examiner has indicated that the rejection of claim 7 equally applies to all of the independent claims. Applicant submits that these claims are not identical, and do not have identical scopes.

Turning now to the Examiner's rejection:

First, the Examiner primarily relies on the Cao reference, as the main reference. However, this reference merely discloses a regenerator 10 which contains a wave division demultiplexer 12, a plurality of optical signal regeneration arrangements 13a-13n, and a wave division multiplexer 30, where the regeneration arrangements 13 provide only phase modulation, through the modulators 20. *See* Figure 1. There is no disclosure of (1) coupling continuous light with the transmitted signals, (2) an intensity modulator modulating the transmitted signals with the continuous light, or (3) a Kerr fiber for phase modulating the transmitted signals with the intensity modulated continuous light by crossed phase modulation. *See* claims 1, 7, 14 and 20. Thus, Cao fails to teach or suggest a plurality of aspects of the present invention.

In fact, Cao simply discloses the general, conventional structure of a WDM generator, and has little or nor relevance to the present invention.

In an effort to cure these deficiencies, the Examiner relies on both the Kitajima and Suzuki references.

The Examiner relies on Kitajima to teach or suggest coupling a continuous light with the transmitted signals and passing the combination through an intensity modulator and a phase modulator. *See e.g.* Figure 4. However, Applicant disagrees with the Examiner's combination of Kitajima with Cao, and the Examiner's assertions regarding the alleged result from their combination.

First, Kitajima discloses an optical transmitter. Such an apparatus is to be found in the terminal equipment of an optical transmission system. However, the regenerator disclosed in Cao is in-line equipment, which is not found in terminal equipment. As such, the respective devices of Cao and Kitajima are placed at different locations of an optical transmitter system. For at least this reason, Applicant submits that one of ordinary skill in the art would not have been motivated to combine the references as suggested by the Examiner.

Secondly, Kitajima does not teach or suggest combining the data signal S with a continuous signal c, and to apply intensity modulation to both of them.

However, in the present invention, the interest to derive a clock signal from the continuous signal, by intensity modulation, is that both signals λ_S and λ_C are synchronized. See page 6, lines 8-14, of the present application. Thus, Applicant submits that (1) there is no motivation or suggestion to combine the Cao and Kitajima references, as suggested by the Examiner, and (2) even if the references were combined, they would not teach or suggest the aspects of the present invention which the Examiner asserts.

Turning now to the Suzuki reference, the Examiner relies on this reference to teach the use of a Kerr fiber for phase modulating the combined signal of the present invention. In support

of this the Examiner asserts that the fiber 118 of Suzuki phase modulates the transmitted signal (the Examiner asserts is the CW laser lightwave) with a continuous light (which the Examiner asserts is the bright soliton lightwave of Figure 2). Again, Applicant disagrees with the Examiner for a number of reasons.

First, in Suzuki the non-linear optical fiber 118, in Figure 2, receives both the bright soliton lightwave and the CW laser lightwave signal. *See* Suzuki, col. 5, line 57 to col. 6, line 3. Further, the purpose of the exclusive OR optical gate is to change the optical signal from a bright-soliton signal to a dark-soliton signal. However, in Suzuki, the CW laser signal produced by the laser source 1 is not intensity modulated, as in the present invention. *See e.g.* claims 1, 7, 14 and 20. This CW laser signal is used to change the bright solitons into dark solitons.

As discussed above with respect to Kitajima, by applying the CW laser signal to the intensity modulator in the present invention, the present invention ensures that both signals λ_S and λ_C are properly synchronized. This is simply not disclosed in the Suzuki reference. Thus, as with Kitajima, there is no motivation or suggestion to combine the Cao, Kitajima and Suzuki references, as suggested by the Examiner, and even if the references were combined, they would not teach or suggest the aspects of the present invention which the Examiner asserts.

In view of the comments above, it is improper for the Examiner to combine the above references as suggested. Specifically, it appears the Examiner is simply taking three references, each of which allegedly disclose a portion of the present invention and placing them together without any clear motivation to do so. Further, even if the references were combined, as

suggested by the Examiner, the resultant combination still fails to teach or suggest each and every feature of the present invention.

In view of the foregoing, Applicant submits that it would not have been obvious to combine the above references as suggested by the Examiner, and that none of the above references, taken either individually or in combination, teach or suggest each and every of the claimed invention, as set forth in claims 1, 7, 14, 20 and 27. As such, the Examiner has failed to establish a *prima facie* case of obviousness with respect to these claims, as required under the provisions of 35 U.S.C. § 103(a). Accordingly, Applicant hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 103(a) rejection of these claims. Further, as claims 2-4, 8-11, 15-17, 21-24, and 30 depend on these claims, respectively, Applicant submits that these claims are also allowable, at least by reason of their dependence.

Remaining 35 U.S.C. § 103(a) Rejections - Claims 6, 13, 19, 26, 28 and 29:

Finally, because claims 6, 13, 19, 26, 28 and 29 depend on various independent claims, and because the Bigo and Itoh references do not cure the deficient teachings of the above cited prior art references, Applicant submits that these claims are also allowable, at least by reason of their dependence. As such, Applicant does not submit herewith independent arguments regarding these claims, but incorporates the discussions set forth above regarding the deficiencies of the Cao, Kitajima and Suzuki references.

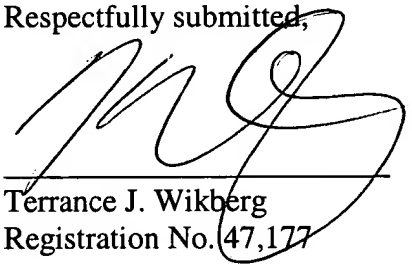
Conclusion:

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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